

REMARKS/ARGUMENTS

1.) Claim Amendments

The Applicant has amended claims 1, 7, 10, 13, 17 and 20; no new matter has been added. Claims 1-22 remain pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2.) Examiner Objections - Claims

The Examiner objected to claims 1-22 because of certain asserted informalities. Although the Applicant does not believe the amendments suggested by the Examiner are necessary, the Applicant has amended the claims to explicitly recite the nature of each claim limitation. The Examiner's consideration of the amended claims is respectfully requested.

3.) Prior Appeal

The Applicant thanks the Examiner for recognizing the deficiencies of his prior claim rejections and, therefore, electing not to answer Applicant's appeal brief filed on May 26, 2006. The Applicant hopes that the Examiner will give the same consideration to the arguments presented herein traversing the Examiner's new grounds of rejection.

4.) Claim Rejections – 35 U.S.C. §103(a)

The Examiner rejected claims 1, 2, 7, 8, 10-14, 17, 18 and 20-22 as being unpatentable over Williams (US 5,606,575) in view of Brennan. *et al.* (US 6,236,731 B1); claims 3 and 4 as being unpatentable over Williams in view of Brennan and further in view of Freed (US 5,686,683); claims 5 and 15 as being unpatentable over Williams in view of Brennan and further in view of Leitch (US 5,202,900); and claims 6, 9, 16 and 19 as being unpatentable over Williams in view of Brennan and further in view of Craven. The Applicant traverses the rejections.

First, in determining obviousness of a claimed invention, various teachings of the prior art are not properly combined unless there is something in the prior art itself that

suggests that those teachings could or should be combined. "It is insufficient that the prior art disclose[s] the components of the patented device, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor." *Northern Telecom Inc. v. Datapoint Corp.*, 908 F.2d 931, 934, 15 USPQ2d 1321, 1323 (Fed. Cir. 1990). Furthermore, "[v]irtually all inventions are necessarily combinations of old elements." "The notion, therefore, that combination claims can be declared invalid merely upon finding similar elements in separate prior patents would necessarily destroy virtually all patents and cannot be the law under the statute, §103." *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1575, 1 USPQ2d 1593, 1603 (Fed. Cir. 1987). In this case, the Examiner has used the Applicant's claims as a blueprint, and picked from various prior art references the elements of the claimed combination. Even if those references disclose the various claim elements, however, there is no teaching or suggestion in the cited prior art references that would motivate one of ordinary skill in the art to arrive at the claimed combination.

Claims 1, 2, 7, 8, 10-14, 17, 18 and 20-22

Applicant's invention is directed to designing a digital filter, e.g., $H(z)$, from a given spectrum characteristic. The filter is applied to a signal in order to produce a desired filtering operation. Mathematically, the Applicant's invention treats the problem of designing a filter, $H(z)$, that produces a desired output, $y(t)$, when applied to a signal, $x(t)$; in other words, $y(t) = H(z)x(t)$.

Claim 1 recites:

1. A method of designing a digital filter, including the steps of:
first, determining a real-valued discrete-frequency representation of a desired full length digital filter;
second, transforming said real-valued discrete-frequency representation into a corresponding discrete-time representation;
third, circularly shifting said corresponding discrete-time representation; and
fourth, applying a shortening window to said circularly-shifted corresponding discrete-time representation to produce a zero-padded reduced length filter. (emphasis added).

The method of designing a digital filter recited in claim 1 requires the performance of four explicit steps, the output of each of the first three steps being the input for the respective subsequent steps. Putting aside the question of whether Williams, in fact, teaches the elements the Examiner asserts it teaches, the Examiner recognizes the deficiencies of Williams. The Examiner notes that Williams fails to teach "circularly shifting said corresponding discrete-time representation." The Examiner then looks to the teachings of Brennan to cure the deficiencies of Williams.

The Examiner asserts that Brennan teaches the "samples have been periodically extended . . . from the circularly shift [*sic*]," and that "[a]s Williams periodically extends said corresponding discrete-time representation . . . , it would have been obvious to one of ordinary skill in the art to circularly shifting [*sic*] said corresponding discrete-time representation taught by Brennan [] in Williams' register to save hardware and computation cost." The Examiner, however, provides no support for this conclusory statement. The Examiner seems to be reasoning that Williams discloses elements "A," "B" and "C," but not "D." The Examiner then looks to Brennan and concludes that because Brennan teaches "D," as well as "B," it would be obvious to combine the teachings of those two references. The Examiner, however, fails to provide any motivation for such combination, but merely seems to be relying on the presence of certain keywords in both references to combine them. Even if the elements of claim 1 were disclosed in the combination of Williams and Brennan, the Examiner has provided no support to show that one of ordinary skill in the art would have combined the elements in the specific manner in which they are recited in claim 1, wherein each step relies on the output of the preceding step. The Examiner, therefore, has failed to establish a *prima facie* case of obviousness of claim 1.

Whereas independent claims 7, 13, and 17 recite limitations analogous to those of claim 1, those claims are also not obvious over Williams in view of Brennan. Furthermore, whereas claim 2 is dependent from claim 1; claims 8 and 10-12 are dependent from claim 7; claim 14 is dependent from claim 13; and claims 18 and 20-22 are dependent from claim 17, and include the limitations of their respective base claims, those claims are also not obvious over Williams in view of Brennan.

Claims 3-6, 9, 15-16 and 19

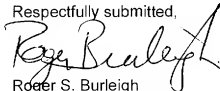
In rejecting claims 3-6, 9, 15-16 and 19, the Examiner looks to the various teachings of Freed, Leitch and Craven. As with the Examiner's combination of Williams and Brennan to reject the underlying base claims, however, the Examiner provides no support to combine the references. The Examiner has merely picked from the cornucopia of prior art references which recite keywords pulled from the elements of Applicant's claims, without any regard to the unique cooperation between those claimed elements. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness of claims 3-6, 9, 15-16 and 19.

CONCLUSION

In view of the foregoing amendments and remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for claims 1-22.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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